



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/065,462

10/21/2002

Shankara Bonthu Reddy

124611

4030

23413

7590

07/12/2007

CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

RAMIREZ, JOHN FERNANDO

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

07/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/065,462

Applicant(s)

REDDY ET AL.

Examiner

John F. Ramirez

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-13, 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/09/07 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 9-13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kaufman et al. (US 2003/0016852) in view of Vick et al. (US 4,115,864), Arand et al. (US 5,628,326), Griffin et al. (2005/0137484).**

With respect to claims 1-4 and 9, Kaufman et al. teaches all the limitations of the claimed subject matter except for mentioning specifically the steps of calculating duration of the cardiac cycle by averaging at least a plurality of said N-1 intervals, a mean method including discarding at least one of a longest and a shortest interval of said N-1 intervals, and computing a mean of a remaining N-1 intervals indicative of the

representative cardiac cycle and a median method. However, averaging of cardiac cycle duration by using a median method and calculating duration of the cardiac cycle by a mean method including discarding at least one of a longest and a shortest interval of said N-1 intervals, and computing a mean of a remaining N-1 intervals indicative of the representative cardiac cycle, are conventional in the art as evidenced by the teachings of Kaufman et al. (US 2003/0016852) in view of Vick et al. (US 4,115,864) (see figure 10, col. 26, lines 59-68, col. 9 lines 1-7), Arand et al. (US 5,628,326) (see abstract, fig. 7B), Griffin et al. (2005/0137484) (abstract, fig. 4, paragraphs 0031-0045).

Based on the above observations, for a person of ordinary skill in the art, modifying the method disclosed by Kaufman et al., with the above discussed enhancements would have been considered obvious in view of the conventionality of these enhancements.

Claims 8, 13, 17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman et al. (US 2003/0016852) in view of Vick et al. (US 4,115,864), Arand et al. (US 5,628,326), Griffin et al. (2005/0137484), in further view of Boyd et al. (7,020,511) and in further view of Lutz (US 5,832,051).

In reference to claims 8, 13, and 17, Kaufman et al. teaches all the limitations of the claimed subject matter as applied to claims 1 and 10, except for mentioning specifically the steps of selecting a middle interval, which is indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan (see Abstract).

Concerning claims 19-22, Kaufman et al. does not disclose the step for associating ECG waveform data with image data generated by an imaging system using a data synchronization scheme (see abstract).

However, the steps of calculating duration of the representative cardiac cycle by averaging using a median method, and selecting a middle interval, which is indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan and associating ECG waveform data with image data generated by an imaging system using a data synchronization scheme are conventional in the art as evidenced by the teachings of Boyd et al. (US 7,020,511) and Lutz (US 5,832,051).

The Boyd et al. patent teaches the steps of calculating duration of the representative cardiac cycle by averaging using a median method, and selecting a middle interval, which is indicative of the representative cardiac cycle so as to associate with a computed tomography imaging system scan (see Figures 5-8).

The Lutz patent teaches the step for associating ECG waveform data with image data generated by an imaging system using a data synchronization scheme (see Abstract and Figures 2 and 3).

Based on the above observations, for a person of ordinary skill in the art, modifying the method disclosed by Kaufman et al., with the above discussed enhancements would have been considered obvious because such modifications would improve to select a trigger point along the cardiac cycle.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JFR


BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700